

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (currently amended) A multiprocessor system comprising:
two or more processor elements whose performances are to be executed by a common program;
a switching request signal detecting section for detecting a switching request signal to request switching such plural processor elements one from another;
a control section for switching said one processor element to said another processor element for execution by said common program;
a storing section, responsive to each switching of said processor elements by said control section, for storing handover information relating to the common program which information is to be handed over from said one processor element to said another processor element;
a store control section for storing said handover information from said one processor element into said storing section when said switching request signal detecting section detects the switching request signal;
a stop control section for stopping the performance of said one processor element after said store control section stores said handover information into said storing section; and
a start control section for starting the performance of said another processor element using said handover information stores in said storing section;
wherein said control section has a management information for indicating, for designation of one at a time from said plural processor elements, a permitted-to-perform processor element, which is allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted-to-perform processor element based on said management information.

2. (canceled)

3. (currently amended) A multiprocessor system according to claim 1, wherein, if a performance requested to be executed for one of said plural processor elements is to be made by said another processor element, said another processor element outputs said switching request signal to said control section.

4. (canceled)

5. (original) A multiprocessor system according to claim 3, wherein said switching request signal is a switching control interruption signal.

6. (canceled)

7. (previously presented) A multiprocessor system according to claim 1, wherein, upon receipt of a signal from outside said system, said control section outputs an interruption signal to the another processor element to stop the performance thereof.

8. (canceled)

9. (currently amended) A multiprocessor system according to claim 3, wherein, upon receipt of a signal from outside said system, said control section outputs an interruption signal to said ~~last-named~~ another processor element to stop the performance thereof.

10. (canceled)

11. (original) A multiprocessor system according to claim 5, wherein, upon receipt of a signal from outside said system, said control section outputs an interruption signal to said last-named processor element to stop the performance thereof.

12. (canceled)

13. (currently amended) A multiprocessor system according to claim 1, wherein said management information ~~control section has a table for indicating, for designation of one at a time from said plural processor elements, a permitted to perform processor element, which is~~

~~allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted to perform processor element based on said table.~~

14. (canceled)

15. (currently amended) A multiprocessor system according to claim 3, wherein said management information is control section has a table for indicating, for designation of one at a time among said plural processor elements, a permitted to perform processor element, which is allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted to perform processor element based on said table.

16. (canceled)

17. (currently amended) A multiprocessor system according to claim 5, wherein said management information is control section has a table for indicating, for designation of one at a time among said plural processor elements, a permitted to perform processor element, which is allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted to perform processor element based on said table.

18. (canceled)

19. (currently amended) A multiprocessor system according to claim 7, wherein said management information is control section has a table for indicating, for designation of one at a time among said plural processor elements, a permitted to perform processor element, which is allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted to perform processor element based on said table.

20. (canceled)

21. (currently amended) A multiprocessor system according to claim 9, wherein said management information is control section has a table for indicating, for designation of one at a time among said plural processor elements, a permitted to perform processor element, which is allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted to perform processor element based on said table.

22. (canceled)

23. (currently amended) A multiprocessor system according to claim 11, wherein said ~~management information is control section has a table for indicating, for designation of one at a time among said plural processor elements, a permitted-to-perform processor element, which is allowed to perform processing, and controls the switching of said processor elements so as to designate said permitted-to-perform processor element based on said table.~~

24. (canceled)

25. (original) A multiprocessor system according to claim 13, wherein, with consulting said table, said control section selects said permitted-to-perform processor element, which is indicated by said table, as said another processor element, and outputs an interruption signal to said permitted-to-perform processor element to stop the performance thereof.

26. (canceled)

27. (currently amended) A multiprocessor system according to claim 15, wherein, with consulting said table, said control section selects said permitted-to-perform processor element, which is indicated by said table, as said ~~last-named~~ another processor element, and outputs an interruption signal to said permitted-to-perform processor element to stop the performance thereof.

28. (canceled)

29. (currently amended) A multiprocessor system according to claim 17, wherein, with consulting said table, said control section selects said permitted-to-perform processor element, which is indicated by said table, as said ~~last-named~~ another processor element, and outputs an interruption signal to said permitted-to-perform processor element to stop the performance thereof.

30. (canceled)

31. (currently amended) A multiprocessor system according to claim 19, wherein, with consulting said table, said control section selects said permitted-to-perform processor element, which is indicated by said table, as said ~~last-named~~ another processor element, and outputs an interruption signal to said permitted-to-perform processor element to stop the performance thereof.

32. (canceled)

33. (currently amended) A multiprocessor system according to claim 21, wherein, with consulting said table, said control section selects said permitted-to-perform processor element, which is indicated by said table, as said ~~last-named~~ another processor element, and outputs an interruption signal to said permitted-to-perform processor element to stop the performance thereof.

34. (canceled)

35. (currently amended) A multiprocessor system according to claim 23, wherein, with consulting said table, said control section selects said permitted-to-perform processor element, which is indicated by said table, as said ~~last-named~~ another processor element, and outputs an interruption signal to said permitted-to-perform processor element to stop the performance thereof.

36. (canceled)

37. (original) A multiprocessor system according to claim 1, wherein said control section actuates one of said plural processor elements with precedence over the remaining processor elements, and actuates one of said remaining processor elements in place of the second-to-last-named one processor element as demand arises.

38. (original) A multiprocessor system according to claim 1, wherein said plural processor elements are different in function from one another.

39. (original) A multiprocessor system according to claim 38, wherein, upon receipt of a signal from outside said system, said control section selects, from said plural processor

elements, one processor element to handle the last-named signal, and actuates the selected one processor element.

40. (original) A multiprocessor system according to claim 38, wherein at least one of said plural processor element is an MPU (Micro Processing Unit) and the remainder is a DSP (Digital Signal Processor), or vice versa.

41. (original) A multiprocessor system according to claim 39, wherein at least one of said plural processor element is an MPU (Micro Processing Unit) and the remainder is a DSP (Digital Signal Processor), and vice versa.

42. (original) A multiprocessor system according to claim 1, further comprising an invalidating section for invalidating the switching function of said control section to thereby actuate at least two or more of said plural processor elements simultaneously.

43. (original) A multiprocessor system according to claim 1, wherein said handover information to be stored in said storing section includes at least one selected from the group consisting of a value of a program counter, an argument of a function, a return value of a function, and content of a stack pointer.

44. (currently amended) A multiprocessor control method for switching two or more processor elements of a multiprocessor system, whose performances are to be executed by a common program, said control method comprising the steps of:

(a) detecting a switching request signal to request switching such plural processor elements, one from another;

(b) controlling the switching of said processor elements so as to designate a permitted-to-perform processor element; which is allowed to perform processing, based on said management information for indicating, for designation of one at a time from said plural processor elements, said permitted-to-perform processor element;

~~(b)-(c)~~ in response to each switching of said processor elements, storing handover information relating to the common program, which information is to be handed over from said one processor element to said another processor element, into a storing section of said multiprocessor system;

~~(e)~~(d) after said handover information has been stored into the storing section, stopping the performance of said one processor element; and

~~(d)~~(e) starting the performance of said another processor element using said handover information stored in the storing section.

45. (previously presented) A computer-readable recording medium in which a multiprocessor control program for switching two or more processor elements of a multiprocessor system, whose performances are to be executed by a common program, wherein said multiprocessor control program instructs a computer at the system to execute the steps of:

(a) detecting a switching request signal to request switching such plural processor elements one from another;

(b) controlling the switching of said processor elements so as to designate a permitted-to-perform processor element; which is allowed to perform processing, based on said management information for indicating, for designation of one at a time from said plural processor elements, said permitted-to-perform processor element;

~~(b)~~(c) in response to each switching of said processor elements, storing handover information relating to the common program, which information is to be handed over from said one processor element to said another processor element, into a storing section of said multiprocessor system;

~~(e)~~(d) after said handover information has been stored into the storing section, stopping the performance of said one processor element; and

~~(d)~~(e) stopping the performance of said another processor element using said handover information stored in said storing section.

46. (currently amended) A multiprocessor system comprising:

a control section for switching between a first processor element and a second processor element during execution of a common program; and

a storing section, responsive to said switching of said processor elements by said control section, for storing handover information relating to the execution of the common program by said first processor element before said handover for use by said second processor after said handover;

wherein said first processor element and said second processor element hand over said handover information to each other through a shared memory section.